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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/578,140	05/24/2000	Dion Horvat	991323	4685

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SHAW PITTMAN LLP
1650 Tysons Boulevard
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EXAMINER

WAHBA, ANDREW W

ART UNIT	PAPER NUMBER
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2661

DATE MAILED: 12/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/578,140

Applicant(s)

HORVAT ET AL.

Examiner

Andrew W Wahba

Art Unit

2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) 19-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 14, 18 and 31-35 is/are rejected.
- 7) ☒ Claim(s) 13, 15-17, 36 and 37 is/are objected to.
- 8) ☒ Claim(s) 19-30 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 May 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.


Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____


PHIRIN SAM
PRIMARY EXAMINER

DETAILED ACTION

Election/Restrictions

1. Newly submitted claims 19-30 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

Group I: Claims 1-18 and 31-37 read on multiple access classified in 370/347.

Group II: Claims 19-30 read on synchronization classified in 370/350.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 19-30 (Group II) are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03. Also see MPEP § 818.02(a).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. With regard to claim 18, the applicant claims "intervals between successive segment B radiation bursts are about 7msec and about 9 msec" (lines 1 and 2). The intervals may be either about 7 or 9 msec, but not both.

Claim Rejections - 35 USC § 102

Art Unit: 2661

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 11- 12 are rejected under 35 U.S.C. 102(b) as being anticipated by West (US Patent 5,574,979).

With regard to claim 11, West discloses connecting (connecting) a radio base station 4505 (base unit) to a 60Hz power main 4507 (AC power source) that also powers a periodic interference source 4501 (broadband interference source / segment B interferer). West detects (detecting) periodic interference (consistent timing of data packets received with errors) and proceeds to transmit data so as to avoid the interference by reassigning time-slots (enhanced mode) (column 61, lines 15-42).

With regard to claim 12, West discloses that in the event that interference is present, the device further determines whether or not the interference is periodic or simply sporadic. To determine if the interference is periodic, West compares (comparing) the timing (observing the time) of the increased signal strength and error rates (received in error) with that of a sync circuit connected to the AC power main (AC power source). If the errors coincide (determining) with the sync waveform, the interference is thought to be periodic (consistent timing of data packets received with errors) (column 62, lines 23-47). West detects periodic interference and proceeds to transmit data so as to avoid the interference by reassigning time-slots (enhanced mode) (column 61, lines 15-42).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over West (US Patent 5,574,979).

With regard to claim 1, West makes known a method of TDMA communication in the presence of periodic interference. During data transmission, West detects bursts of interference and proceeds to transmit data so as to avoid the interference by reassigning time-slots (column 61, lines 15-42). West employs two time-slots for communication (transmitting the information) in the presences of interference bursts (interference burst). While communicating in one transmission time (first assigned time slot), communication resumes in a second transmission time (second time slot) after the interference ends (column 62, lines 14-18).

West does not disclose transmitting a redundant copy of the data packet within the second time slot. West, however, discloses redundant transmission (redundant copy) (column 22, lines 30-33).

A person of ordinary skill in the art would have been motivated to transmit a redundant copy of the data packet on the second time slot so as to reduce transport delay (column 22, lines 30-33). At the time the invention was made, therefore, it would

have been obvious to one of ordinary skill in the art to which the invention pertains to transmit a redundant copy of the data packet within the second time slot as described in claim 1.

Regarding claim 2, West discloses a method of TDMA communication in the presence of periodic interference. West detects (detecting) periodic interference (periodic bursts of the interference) and proceeds to transmit data so as to avoid the interference by reassigning time-slots (column 61, lines 15-42). West utilizes two time-slots for communication in the presences of interference bursts. While communicating in one transmission time (first time slot), communication resumes in a second transmission time (second time slot) after the interference abates (column 62, lines 14-18). When West recognizes that the interference is periodic, data is transmitted only at times when the interference is not expected to be present (column 61, lines 15-42).

West does not disclose transmitting a redundant copy of the data packet on the second time slot. West, however, discloses redundant transmission (redundant copy) (column 22, lines 30-33).

A person of ordinary skill in the art would have been motivated to transmit a redundant copy of the data packet on the second time slot so as to reduce transport delay (column 22, lines 30-33). At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to transmit a redundant copy of the data packet on the second time slot as described in claim 2.

With respect to claim 3, West presents the use of error rate monitoring to determine whether or not periodic interference is present. Signal strength and packet error rates are monitored (observing) to determine whether or not interference is present. In the event that interference is present, the device further determines whether or not the interference is periodic or simply sporadic. To determine (determining) if the interference is periodic, West compares the timing of the increased signal strength and error rates with that of a sync circuit connected to the AC power source. If the errors coincide with the sync waveform, the interference is thought to be periodic (column 62, lines 23-47).

Regarding claim 4, West discloses a method to ascertain whether or not the interference is periodic comparing (observing) the timing of the interference with that of the AC power source (AC power source). To determine whether or not the interference is periodic, West compares the timing of the increased signal strength and error rates with that of a sync circuit connected to the AC power source. If the errors coincide with the sync waveform, the interference is thought to be periodic (Figure 45, column 61, lines 23-33, column 62, 23-47).

Regarding claim 5, West employs two thresholds to monitor interference and determine whether or not periodic interference is present. First, the signal strength (first threshold) is compared (determining) to a threshold. In the event that the signal strength is higher than expected, the data packet error rate (second threshold) is compared (determining) to a threshold. In the event that both the received signal strength and data packet error rate exceed their respective thresholds, West proceeds

to determine whether or not the interference is periodic (Figure 51. and column 62, lines 22-35).

With respect to claim 6, West presents a computer controller that interfaces with the transceiver in either the mobile unit (first transceiver) or the base station (second transceiver). Among the tasks that the computer controller performs at either the base station or the mobile unit is the assignment (indication) of time slots to avoid communications of data packets during interference (column 61, lines 23-42).

With regard to claim 7, West presents a method of TDMA communication in the presence of periodic interference. During data transmission, West detects (detecting) bursts of interference and proceeds to transmit data so as to avoid (synchronizing) the interference by reassigning time-slots (column 61, lines 15-42). After a burst of interference occurs, West determines whether or not the interference is periodic. In the event that the interference is periodic, time slots are assigned for communication such that they do not coincide with the expected interference bursts (column 61, lines 23-33, column 62, 23-47).

West does not disclose transmitting a redundant copy of the data packet on another time slot. West, however, discloses redundant transmission (redundant copy) (column 22, lines 30-33).

A person of ordinary skill in the art would have been motivated to transmitting a redundant copy of the data packet on another time slot so as to reduce transport delay (column 22, lines 30-33). At the time the invention was made, therefore, it would have

been obvious to one of ordinary skill in the art to which the invention pertains to transmit a redundant copy of the data packet on the second time slot as described in claim 7.

With regard to claim 8, West discloses information that is transmitted in the form of data packets (data packet) (column 19, lines 12-14).

With regard to claim 9, West presents a computer controller that interfaces with the transceiver in either the mobile unit or the base station. Among the tasks that the computer controller performs at either the base station or the mobile unit is the assignment (assigning) of time slots to avoid communications of data packets during interference (column 61, lines 23-42).

With regard to claim 10, West discloses that the periodic interference source is a microwave (microwave) oven (column 61, lines 23-24).

With regard to claim 14, West detects periodic interference and proceeds to transmit data so as to avoid the interference by reassigning time-slots (column 61, lines 15-42). West utilizes two time-slots for communication in the presences of interference bursts. While communicating in one transmission time (first assigned time slot), communication resumes in a second transmission time (second time slot) after the interference abates (spacing ... greater than duration) (column 62, lines 14-18). When West recognizes that the interference is periodic, data is transmitted only at times when the interference is not expected to be present (column 61, lines 15-42).

West does not disclose transmitting a redundant copy of the data packet on the second time slot. West, however, discloses redundant transmission (redundant copy) (column 22, lines 30-33).

A person of ordinary skill in the art would have been motivated to transmit a redundant copy of the data packet on the second time slot so as to reduce transport delay (column 22, lines 30-33). At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to transmit a redundant copy of the data packet on the second time slot as described in claim 2.

With regard to claim 18, the applicant and West disclose a method in which the periodic interference source is a microwave (microwave) oven (column 61, lines 23-24). Therefore, the radiation bursts would be about 7-9msec.

8. Claims 31-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over West (US Patent 5,574,979) in view of Fridley et al (US Patent 6,229,432) in further view of Matouka (US Patent 3,697,787).

West discloses a radio base station 4505 (base unit) that consists of a transceiver 4521 (transceiver), sync circuit 4511 and computer controller 4519 (microcontroller) as illustrated in figure 45. West detects (detecting) periodic interference (consistent timing of data packets received with errors) and proceeds to transmit data so as to avoid the interference by reassigning time-slots (enhanced mode) (column 61, lines 15-42).

West however does not expressly disclose a zero crossing detector as a part of the sync circuit 4511. Fridley et al discloses an intelligent transceiver module in which a zero crossing detector 56 (zero crossing detector) is coupled to microprocessor 30 (microcontroller) (Fridley, column 7, lines 55-59). A person of ordinary skill in the art

would have been motivated to employ Fridley et al in West synchronize the output of the microprocessor 30 (Fridley, column 7, lines 55-59). At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to combine West and Fridley et al (collectively "West-Fridley").

West-Fridley does not expressly disclose a AC-to-AC converter. Matouka discloses a zero-crossing detector 60 (zero crossing detector) coupled to a synchronized cycloconverter 54 (AC-to-AC converter) (Matouka, column 4, lines 56-61). A person of ordinary skill in the art would have been motivated to employ Matouka in West-Fridley to regulate the conductive states of rectifiers in the cycloconverter 54 (AC-to-AC converter) (Matouka, column 4, lines 62-65). At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to combine West-Fridley and Matouka so as to obtain the invention as specified in claim 31.

With regard to claim 32, applicant describes the WDCT standard in the description of the prior art (page 3, lines 8-10). The use of a particular standard is a matter of design choice.

With regard to claim 33 and 34, West discloses connecting a radio base station 4505 (base unit) to a 60Hz power main 4507 (AC power source) that also powers a periodic interference source 4501. West detects periodic interference (consistent timing of data packets received with errors/ segment B radiation) and proceeds to transmit data so as to avoid the interference by reassigning time-slots (enhanced mode) (column 61, lines 15-42).

With regard to claim 35, during data transmission, West detects bursts of interference and proceeds to transmit data so as to avoid the interference by reassigning time-slots (column 61, lines 15-42). West employs two time-slots for communication (transmitting the information) in the presences of interference bursts (interference burst). While communicating in one transmission time (first assigned time slot), communication resumes in a second transmission time (second time slot) after the interference ends (column 62, lines 14-18).

West does not disclose transmitting a redundant copy of the data packet within the second time slot. West, however, discloses redundant transmission (redundant copy) (column 22, lines 30-33).

A person of ordinary skill in the art would have been motivated to transmit a redundant copy of the data packet on the second time slot so as to reduce transport delay (column 22, lines 30-33). At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to transmit a redundant copy of the data packet within the second time slot as described in claim 35.

Allowable Subject Matter

9. Claim 13, 15-17 and 36-37 are to objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew W Wahba whose telephone number is (571) 272-3081. The examiner can normally be reached on M-F 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth N Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Respectfully Submitted,

Andrew Wahba *AW*
Patent Examiner
December 7, 2004



**PHIRIN SAM
PRIMARY EXAMINER**